

## Federal Communications Commission

## § 73.154

(3) A Modified Standard Pattern shall be specifically labeled as such, and shall be plotted in accordance with the requirements of paragraph (b)(2) of § 73.150. The effective (RMS) field strength in the horizontal plane of  $E(\phi, \alpha)_{std}$ ,  $E(\phi, \alpha)_{th}$ , and the root sum square (RSS) value of the inverse fields of the array elements (derived from the equation for  $E(\phi, \alpha)_{th}$ ), shall be tabulated on the page on which the horizontal plane pattern is plotted. Where sector augmentation has been employed in designing the modified pattern, the direction of maximum augmentation (i.e., the central azimuth of augmentation) shall be indicated on the horizontal plane pattern for each augmented sector, and the limits of each sector shall also be shown. Field values within an augmented sector, computed prior to augmentation, shall be depicted by a broken line.

(4) There shall be submitted, for each modified standard pattern, complete tabulations of final computed data used in plotting the pattern. In addition, for each augmented sector, the central azimuth of augmentation, span, and radiation at the central azimuth of augmentation ( $E(\phi, \alpha)_{aug}$ ) shall be tabulated.

(5) The parameters used in computing the modified standard pattern shall be specified with realistic precision. Following is a list of the maximum acceptable precision:

(i) Central Azimuth of Augmentation: to the nearest 0.1 degree.

(ii) Span: to the nearest 0.1 degree.

(iii) Radiation at Central Azimuth of Augmentation: 4 significant figures.

(d) Sample calculations for a modified standard pattern follow. First, assume the existing standard pattern in § 73.150(c). Then, assume the following augmentation parameters:

Augmentation number	Central azimuth	Span	Radiation at central azimuth
1 .....	110	40	1,300
2 .....	240	50	52
3 .....	250	10	130

Following is a tabulation of part of the modified standard pattern:

Azimuth	0	30	60	Vertical angle
0 .....	28.86	68.05	72.06	.....

Azimuth	0	30	60	Vertical angle
105 .....	1,299.42	872.14	254.21	.....
235 .....	39.00	35.74	38.71	.....
247 .....	100.47	66.69	32.78	.....

[46 FR 11992, Feb. 12, 1981, as amended at 56 FR 64862, Dec. 12, 1991]

### § 73.153 Field strength measurements in support of applications or evidence at hearings.

In the determination of interference, groundwave field strength measurements will take precedence over theoretical values, provided such measurements are properly taken and presented. When measurements of groundwave signal strength are presented, they shall be sufficiently complete in accordance with § 73.186 to determine the field strength at 1 mile in the pertinent directions for that station. The antenna resistance measurements required by § 73.186 need not be taken or submitted.

[44 FR 36037, June 20, 1979, as amended at 56 FR 64862, Dec. 12, 1991]

### § 73.154 AM directional antenna partial proof of performance measurements.

(a) A partial proof of performance consists of at least 10 field strength measurements made on each of the radials established in the latest complete proof of performance of the directional antenna system.

(b) The measurements are to be made within 2 to 10 miles (3 to 16 kilometers) from the center of the antenna array. When a monitoring point as designated on the station authorization is on a particular radial, one of the radial measurements must be made at that point.

(c) The results of the measurements are to be analyzed in either of two methods. Either the arithmetic average or the logarithmic average of the ratios of the field strength at each measurement point along each radial to the corresponding field strength in the most recent complete proof of performance may be used to establish the inverse distance fields. (The logarithmic average for each radial is the antilogarithm of the mean of the logarithms of the ratios of field strength